

times no doubt Taboga is very rich but during my stay it was the poorest collecting, regards number of species, of any place I have visited on the coast of Central America.

My dredging this trip has been rather a failure. At La Union I was unable to secure a launch. At Corinto I had the Pilot's boat two mornings with fair success. At San Juan del Sur after the third haul we lost the dredge completely and had to have another one made after much difficulty.

At Puntarenas I could not find any suitable dredging ground; too much mud.

At Taboga, the very opposite, coarse gravel but no shells—the gravel so coarse in fact it would not wash through the dredge net. At a small island between Taboga and the mainland we made a few hauls with mostly live *Pecten circularis* as results. These seem to come into shallow water only at certain seasons of the year—probably at spawning time.

The *Cypraea arabicula*, *Ranella caelata* and several *Thais* were all spawning on the rocks at this season.

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## NEW LAND SNAILS FROM IDAHO AND EASTERN OREGON

BY H. BURRINGTON BAKER

Among the species collected in the Idaho Transition-Area during the summer of 1931, the following appear to be new: *Anguispira nimapuna* and *Discus* (*Gonyodiscus*) *marmorensis* from Idaho and *Megomphix lutarius* from eastern Oregon. Arguments are presented to show that the generic term *Discus* should take preference over the more familiar *Gonyodiscus*. Types are in the Academy of Natural Sciences of Philadelphia.

ANGUISPIRA NIMAPUNA, new species. Plate 5, figs. 4 to 6.

Type locality near northeast corner of section 32, T. 32 N., R. 4 E. (Boise Meridian) at about 116° W. Long. and 46° 5' N. Lat.; quite common in a small, shallow, lava rock-slide near bottom (altitude about 1,350 feet) of southwest-facing

slope (with sparse brush and a few yellow pine) on east side of South Fork of Clearwater River, across road from monument to Chief Joseph (on battleground of Nez Perce or Nimapu Indians), one mile south of Stites, Idaho County, Idaho. Aestivating (Aug. 24), especially near roots of scattered, service-berry bushes; more deeply hidden than *Polygyra ptychophora* and an *Oreohelix*, but less so than *Polygyra mullani* and *Polygyrella polygyrella*, which buried themselves in the black, coarsely granular soil beneath the rock-slide; not found in the adjacent, larger slides or at any other locality.

Shell (pl. 5, figs. 4 to 6) small (for genus), much depressed (type) to depressed conical, angulate at periphery; olive-brown to straw-color, often with very vague, darker flammulae, and with greenish tinge predominating in young specimens; translucent when fresh and with satin-like luster. Whorls  $5\frac{3}{4}$  (type), gradually increasing and depressed. Embryonic whorls 2; first almost smooth but with weak traces of the oblique sculpture of *A. alternata*; second gradually assuming nepionic ribs. Young shells more sharply angulate than adults. Last whorl with 54 (type), heavy, low, widely spaced growth-ribs (about  $\frac{1}{5}$  as wide as interspaces), which are positively arcuate above periphery and negatively so below (much as in *A. alternata*), and with extremely delicate, closely spaced, fairly regular, secondary riblets which are crossed, in the major interspaces, by fine, irregular, spiral striae. Umbilicus large, 3.19 (type) to 3.64 (paratype) times in major diameter; ogival. Aperture depressed, angulate. Peristome simple and sharp; markedly oblique (about  $50^\circ$  to axis of shell); emarginate just below suture.

#### DIMENSIONS

	Altitude	Maj. diam.	Min. diam.	Alt. apert.	Diam. apert.	Whorls
Type	5.33	229 (12.2)	201 (10.7)	58 (3.09)	146 (4.52)	$5\frac{3}{4}$
Paratype	6.14	193 (11.9)	178 (10.9)	49 (3.01)	157 (4.72)	6

*A. nimapuna* is the first *Anguispira* of the typical group that has been found west of the Rocky Mountains. Its relatively thin shell, very delicate microscopic sculpture and al-

most uniform coloration immediately distinguish it from the species of the eastern United States.

DISCUS (GONYODISCUS) MARMORENSIS, new species. Plate 5, figs. 1 to 3.

Type locality about  $116^{\circ} 20'$  W. Long.,  $45^{\circ} 35'$  N. Lat., elevation near 3,000 feet; quite infrequent in steep, north facing, mossy talus slope, shaded by fairly open stand of mesophytes (dominated by grand fir and large yew), below cliffs of white, crystalline marble that tends to crumble into angular gravel and sand, about 2 miles up middle fork of John Day Creek canyon, which opens into Salmon River canyon near southeast corner of section 14, T. 26 N., R. 1 E. (Boise Meridian), Idaho County, Idaho.

Aestivating (July 30) 1 to 3 feet below surface on dirty rocks which were wedged between and against the roots of a large clump of dwarf maple, along with *Radiodiscus abietum*, *Microphysula ingersolli*, *G. cronkhitei*, *Polygyra mullani*, *P. ptychophora*, *Anguispira kochi*, *Oreohelix haydeni*, *Pristioma idahoense*, *P. subrupicola*, etc.

Shell (Pl. 5, figs. 1 to 3) small but heavy, moderately (type) to decidedly depressed, dome-shaped above with flatter base; thread-carinate at periphery; dull, with narrow varices of buff and brown alternating with broader flammulae of dark chestnut (often more evident in young and in bleached shells than in fresh adults). Whorls  $6\frac{1}{2}$  (type), very gradually increasing; suture abruptly impressed. Embryonic whorls 2; half of first almost smooth but remainder with fine, protractive and retractive striae; about  $\frac{1}{4}$  of last showing slight traces of nepionic ribs. Young shells biconvex, much more depressed but with vaguer carina than adults. Last whorl with lateral surface about  $40^{\circ}$  from vertical, with moderately convex base and with peripheral angulation marked off as a thread-carina by shallow grooves above and below it; with about 70, low, heavy growth-ribs, which are  $\frac{1}{3}$  to  $\frac{1}{2}$  width of interspaces and which extend from suture to below periphery but disappear almost completely on most of base, although traces are often present on

the umbilical wall; with microscopic sculpture (more distinct above carina) consisting of irregular, anastomosing growth-wrinkles, crossed by occasional spiral striae that seldom can be traced beyond a single major interspace. Umbilicus large and funicular, 2.94 times in maj. diam. Peristome simple and sharp, slightly oblique (about 30° to axis of shell), very slightly emarginate below suture.

## DIMENSIONS

Type	Altitude	Maj. diam.	Min. diam.	Alt. apert.	Diam. apert.	Whorls
	4.64	175 (8.13)	166 (7.72)	39 (1.81)	156 (2.82)	6½

*Discus* has been used here as the genus and *Gonyodiscus* as a section for the following reasons. Fitzinger (1833, Beitr. Landesk. Oesterr. III: 98, 99) proposed two genera which included species that are now combined in one. *Gonyodiscus* (p. 98) had, for monotype, *G. perspectivus* (Meg. v. Mühlf.), from southern Europe, which should not be confused with Say's preoccupied name for the nearctic *D. patulus* (Desh.). *Discus* (p. 99) included its type by subsequent designation of Gray (1847, Proc. Zoöl. Soc. London: 174), *Helix ruderata* Studer, which is very close to the nearctic *D. cronkhitei* (Newc.). Page priority was formerly considered valid, and *Gonyodiscus* has been given precedence over *Discus* by most recent authors, but the International Commission has wisely decided (Opinion 40) that priority (at least in the case of species) is not affected by mere paginal sequence, but must be determined by subsequent selection. So far as I can ascertain, H. and A. Adams (1855, Gen. Rec. Moll. II: 116) were the first to take definite action in the present case and they used *Discus* as a genus, with *Gonyodiscus* as one of its synonyms.

*Discus marmorensis* is very different from any of the other nearctic species. It does resemble considerably, both in shell and soft parts, the palearctic *D. perspectivus* (Mühlf.) but has a much heavier, more elevated shell, with greater contrast between the sculpture of its apical and that of its basal sides. It is apparently the first nearctic species of *Gonyodiscus*, an otherwise palearctic group.

MEGOMPHIX LUTARIUS, new species. Plate 5, figs. 7 to 9.

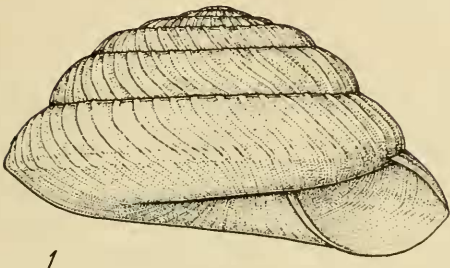
*Macrocyclus hemphilli* W. G. B. (1886, 2nd Suppl.: 25), Weston, Ore. (A.N.S.P. 11793); not W. G. B. (1879). *Circinaria hemphilli* Pils. (1898, Naut. 11: 128), Walla Walla, Wash. (A.N.S.P. 11795). Cf. *Haplotrema hemphilli* Henderson (1929, Univ. Colo. Studies 17: 97).

Type locality about 118° 25' W. Long., 45° 45' N. Lat., elevation over 2,000 feet; frequent on an almost vertical, lava exposure, overgrown with dry moss, ferns and scattered bushes, below north-facing slope with Douglas fir (*Pseudotsuga*) and only a few feet from the practically dry bed of Pine Creek, about 5 miles above Weston, Umatilla Co., Oregon. Aestivating (Aug. 10), buried 2 to 5 inches under yellowish dust and dirt in hollows of the outcropping ledges, near *Polygyra*, *Microphysula*, *Haplotrema*, *Anguispira*, *Radiodiscus abietum*, *Gonyodiscus cronkhitei*, *Pristiloma idahoense*, *P. subrupicola*, etc.

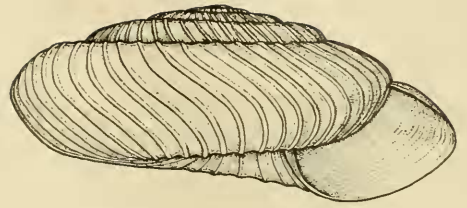
Shell (Pl. 5, figs. 7 to 9) quite small, thin and much depressed; rather dull, light corneous with a slight greenish tinge. Whorls  $5\frac{1}{4}$  (type), quite gradually increasing; suture well impressed. Embryonic whorls 2, almost smooth but with extremely weak traces of fine, closely spaced, spiral striae and with nepionic growth-lines gradually appearing on last  $\frac{1}{4}$  whorl. Last whorl terete, slightly descending, with closely spaced, low but distinct growth-wrinkles (more evident than in *M. hemphilli*), which are crossed by exceedingly fine, irregular, closely spaced, spiral striae (only visible under high magnification and in strong light). Umbilicus large, 3.35 times in maj. diam. Aperture well rounded except near sutural angle where outline is more convex. Peristome thin and sharp, easily broken (all shells show mended places); slightly arcuate above periphery and almost vertical (about 20° to axis of shell).

#### DIMENSIONS

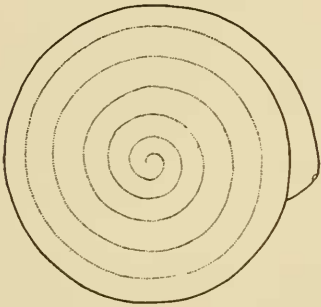
	Altitude	Maj. diam.	Min. diam.	Alt. apert.	Diam. apert.	Whorls
Type	4.59	196 (9.01)	172 (7.88)	75 (3.45)	108 (3.73)	$5\frac{1}{4}$
Paratype	5.14	204 (10.5)	177 (9.1)	72 (3.68)	115 (4.25)	$5\frac{1}{4}$



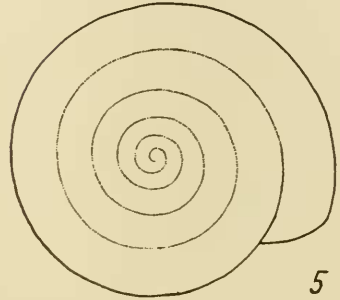
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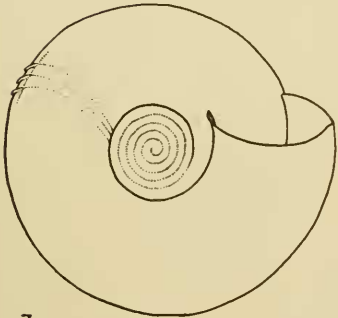
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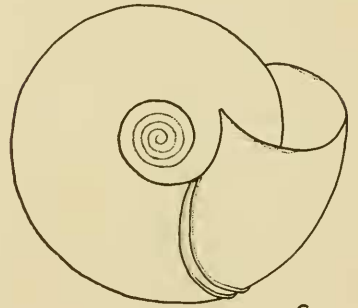
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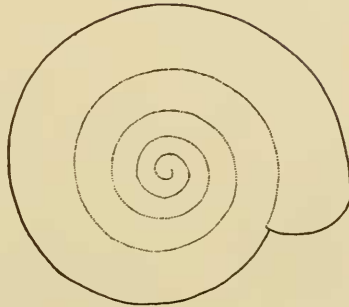
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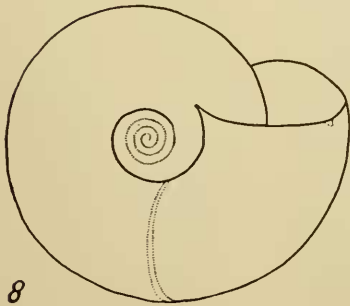
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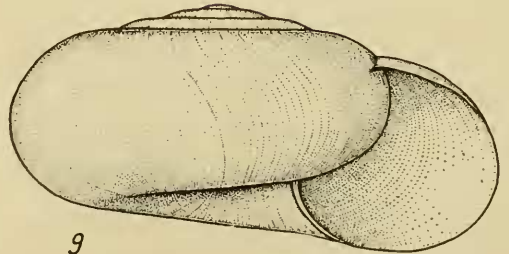
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7



8



9



1—3. *Discus marmorensis* H. B. Baker. 4—6. *Anguispira nimapuna* H. B. Baker. 7—9. *Megomphix lutarius* H. B. Baker.